



# U.S. Coast Guard

## Marine Safety Office, Portland, Maine



# SAFETY ALERT 00-01

## Immersion Suits – Maintenance and Training

Several recent sinkings of fishing vessels in New England waters have highlighted the critical role played by immersion suits in surviving such accidents. Sinkings often occur very rapidly, making every second count. It is important that immersion suits function flawlessly, and that crewmembers are able to don them rapidly and instinctively. Proper maintenance and training are vital to the successful use of this equipment.

**Regular Maintenance:** The Master or individual in charge of a vessel is required under federal regulations to ensure that each item of lifesaving equipment is maintained and inspected in accordance with the manufacturer's guidelines. Coast Guard personnel regularly encounter immersion suits that have not been properly maintained. Inspection of the suits is recommended before each voyage, or at least quarterly. Procedures may vary by manufacturer. It is recommended that you contact the manufacturer of your equipment for more specific information. The following are generally accepted inspection and maintenance procedures for immersion suits:

1. Ensure storage bag closures function properly, and that the bag is in good condition. Ensure Donning Instructions are legible. Be sure that the size and manufacturer of the suit correspond to the markings on the bag.
2. Make sure the suit is dry inside and out. Ensure that the suit is Coast Guard Approved and clearly marked with the name of the vessel or owner of the suit. Check the entire suit for damage. Small rips, tears, or punctures should be fixed at a qualified repair station, or at a dive shop competent in dry-suit repair. Significant damage should be repaired by the suit manufacturer.
3. Slide the zipper up and down the entire length. It must function smoothly and with relative ease. Even small amounts of corrosion can cause the zipper to stick or fail. Keep the zipper clean and lubricated with the manufacturer's recommended lubricant, or beeswax. Avoid the use of paraffin wax, especially in cold climates. Any suit with a nonfunctional zipper must be removed from service and replaced, or returned to the manufacturer for repair.
4. Check the head support/buoyancy ring for damage and ensure that it is properly attached. Check the inflation hose for deterioration or leaks, and ensure that the inflation valve locking ring functions and is in the open position. Inflate the bladder and check for leaks. If possible, this is best done by submersing it in water and looking for bubbles, or by letting it stand overnight and checking for loss of pressure. Minor leaks can be fixed at a qualified repair station; significant leaks should be repaired by the manufacturer.
5. Check the reflective tape for sufficient amount and adhesion, and replace if necessary. For best adhesion, have repairs done at a qualified repair station.
6. Check the whistle and PFD light for proper operation. Lights must be Coast Guard Approved. Replace undated batteries annually, and dated batteries prior to expiration. Although not specifically required, strobe lights are highly recommended, as their visibility is typically superior to that of the chemical or incandescent type. Consider stowing additional signaling equipment in the pocket(s), such as a dye marker, aerial flares, or a signal mirror.

**Annual Servicing:** Manufacturers generally recommend that immersion suits be serviced at an approved facility at least every two years for suits up to 5 years old. Suits over 5 years old should be inspected annually, including leak testing. A study of exposure suits conducted by the Coast Guard in 1986 discovered that the majority of the suits between 7 and 10 years



Although this suit may appear serviceable, it is not. Made by BayleySuit in 1983, its buoyancy and thermal protection have been significantly reduced due to aging and compression. BayleySuit advises replacement of its suits after 10 years.

old had lost at least 20% of designed buoyancy and no longer satisfied regulatory requirements for minimum buoyancy. There was a corresponding reduction in thermal protection as well. Owners of suits over 7 years old are cautioned about the importance of regular servicing and close monitoring of the condition of such suits. Replacement should be considered on a case by case basis. Consult your servicing facility and manufacturer for additional guidance.

**Storage/Accessibility:** Suits should be stored in a clean, dry location. Avoid stacking or compressing the suits in storage as it may result in a loss of buoyancy. Federal regulations require that immersion suits be stowed so that they are readily accessible to the individual for whom they are intended, from both the individual's normal work area and berthing area. If there is no location readily accessible to both areas, then a suit must be stowed at each location.

**Training:** The Operator of any documented fishing vessel that operates beyond the Boundary Line is required by federal regulations to ensure that each crewmember participates in monthly drills and training, conducted by a certified drill instructor. This training includes breaking out and donning immersion suits. A properly trained person should be able to don a suit in well under a minute. Although this training is not required aboard State-registered vessels or those that operate solely inside the Boundary Line, it is strongly encouraged.

**For more information please contact:**

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